

MEGA865 PRO

User's Guide



N1996

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

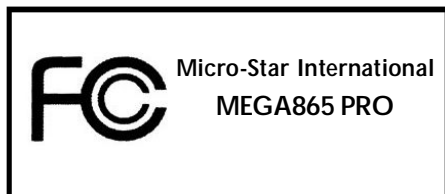
Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and AC. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

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Revision History

Revision	Revision History	Date
V1.0	First release for soft copy	February 2005



Safety Instructions

1. Always read the safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Keep this equipment away from humidity.
4. Lay this equipment on a reliable flat surface before setting it up.
5. The openings on the enclosure are for air convection hence protects the equipment from overheating. **DO NOT COVER THE OPENINGS.**
6. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
7. All cautions and warnings on the equipment should be noted.
8. Never pour any liquid into the opening that could damage or cause electrical shock.
9. If any of the following situations arises, get the equipment checked by a service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not work well or you can not get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - The equipment has obvious sign of breakage.
10. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C (140°F), IT MAY DAMAGE THE EQUIPMENT.**



廢電池請回收

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

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1

Getting Started

- 1.1 All-in-one Feature Set
- 1.2 System Specifications
- 1.3 System Configuration

1.1 All-in-one Feature Set

The MEGA865 PRO implements the powerful computing multi-media performance and a screw-less chassis design for your easy operation and assembly. The whole idea behind the all-in-one feature allows you to use a PC as an entertainment center in a small form factor. You can enjoy music and radio in an easy-to-use touch control panel without the hassle of entering OS. With its compact form factor design, the MEGA865 PRO can be placed anywhere you want, or easily be moved to any other place.



New Features of MEGA865 PRO

InstantOn Mode

- We provide InstantOn Mode for direct playback of DVD/VCD/CD/Photo/MP3/FM/TV (optional TV Tuner card). Just press the InstantOn Mode (A/V Power Switch) and then you can enjoy all kinds of Video or Audio entertainment.

Fancy LED

- The Fancy LED display shows the DVD/VCD/CD/Photo/MP3/FM/TV (optional TV Tuner card) status. MEGA865 PRO provides different EQ modes to choose from. Aside from InstantOn Mode, you can also see it working when you use the Home Theater application.

New Generation CPU

- MEGA865 PRO (MS-6287) supports the latest Intel Pentium 4 Prescott CPU for higher computing performance.

Improved Sound

- With the Realtek ALC658 audio controller, the MEGA865 PRO makes watching DVD a real enjoyment. You can enjoy the high-level sound effect in movies. If you use a LCD monitor or Plasma TV with it, the visual experience is close to being in a movie theater.

802.11g WLAN

- MEGA865 PRO is optional to equip with 802.11g WLAN. It offers wireless transmission over relatively short distances at up to 54Mbps. The 11g WLAN is compatible with 11b products, so both 11b and 11g clients can reside on the same network. This flexibility preserves your network investment and allows you to upgrade or scale your network according to your budget and time frame.

7-in-1 Card Reader

- MEGA865 PRO is equipped with a 7-in-1 card reader. It supports CF, MS, SmartMedia, SD, MMC, MS-Pro and MicroDrive. You can easily read photos or other files on the memory card. Your digital cameras, DVs, MP3 players, PDAs or other digital devices are highly compatible with this MEGA PC.

Home Theater

- To make our MEGA III Series more user-friendly, we design the Home Theater application for all models of MEGA III Series. This user-friendly software can be operated via a remote control, users need only sit on the sofa to enjoy the video or audio.

SRS

MEGA865 PRO is equipped with SRS audio enforcement technology. SRS (Sound Retrieval System) was the first generation of 3D sound, dramatically improving the quality of stan-



dard stereo. SRS is based on the human hearing system and is designed to retrieve the natural spatial cues and ambient information that is presented in audio but masked by traditional recording and playback methods.

Whether the signal is mono or stereo, SRS expands the audio material to create a realistic three-dimensional sound image. SRS has no sweet-spot and fills the room with a sound experience much closer to that of a live performance.

SRS is a trademark of SRS Labs, Inc. SRS technology is incorporated under license from SRS Labs, Inc.

1.2 System Specifications

● M/B

- MS-7122 (Proprietary F/F), 310.1 x 198 mm

● CPU:

- Support Socket 775 for Intel Prescott CPU up to 3.4GHz
(For the latest information about CPU, please visit our Web site at http://www.msi.com.tw/program/products/slim_pc/slim/pro_slm_cpu_support.php)

● Chipset:

- Intel Springdale 865G and ICH5

● Memory:

- Support Dual Channel DDR 266/333/400 x 2, maximum size up to 2.0GB

● On-Board Audio:

- AC97 2.2 CODEC: Realtek ALC658
- Surround and EQ: TOSHIBA EQ PT238P and TA2136N

● On-Board VGA:

- Springdale Graphic Chip
- On-Board VGA memory: Shared

● On-Board Communication

- LAN: RTL8100C (10/100Mb)
- Modem: 56K MDC module (optional)
- WLAN: Mini-PCI (optional)

● On-Board USB2.0

- Front x 2; Rear x 4; On-Board x 1 for Card Reader Module

● On-Board IEEE 1394:

- VIA VT6307

● Expansion Slots:

- PCI 2.3 x 1, AGP (8X) x1

● Power Supply:

- 220W (PFC 5V/12V SB) Full Range

● Chassis:

- 210(W) x 306(D) x 175(H) mm

● On-Board Headers & Connectors

- Rear Panel: COM x 1, VGA x 1, PS/2 x 2, 5.1 Output x 1, Mic-in/Line-in/SPDIF-out x 1 (optical), LAN (RJ45, 10/100) x 1, USB2.0 x4, RJ11 Phone-jack (optional) x 1, Wireless LAN antenna (optional) x 1
- Front Panel: Mic-in x 1, Headphone-out x 1, SPDIF/In x 1 (optical), USB2.0 x 2, 1394 x 1 (4-pin), 1394 x 1 (6-pin)

● Storage Subsystem

- 7-in-1 Card Reader

● Target Operating System

- Support Microsoft Windows XP

● BIOS

- 4MB Flash

● Security

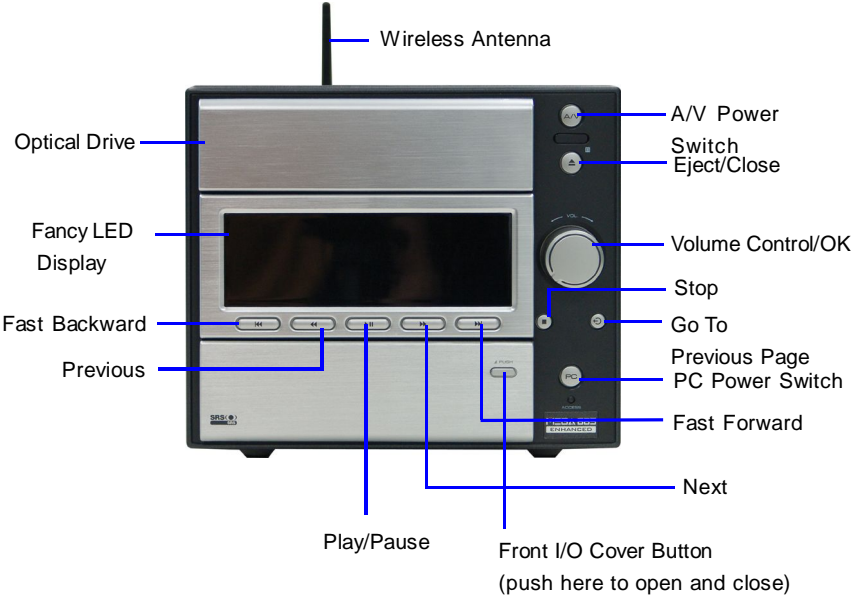
- Protect the data from unauthorized access through two levels of BIOS access (User Password & Supervisor Password)

● Others

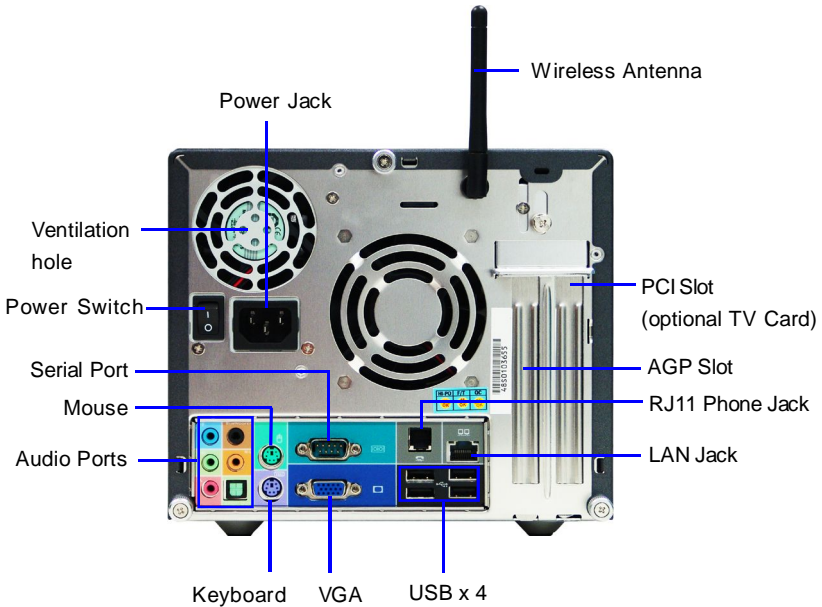
- Microsoft® PC 2001
- ACPI States Supported: S0, S1, S3 (STR), S4 (STD), S5 (Soft Off)
- Wake Up from S1/S3/S4/S5

1.3 System Configuration

Front Panel



Back Panel



After the installation is completed, please keep other objects away from the ventilation hole at least 2.5cm and above. Do not block the ventilation hole.

2

Mainboard Hardware

2.1 Mainboard Layout

2.2 CPU

2.3 Memory

2.4 Power Supply

2.5 Front Panel

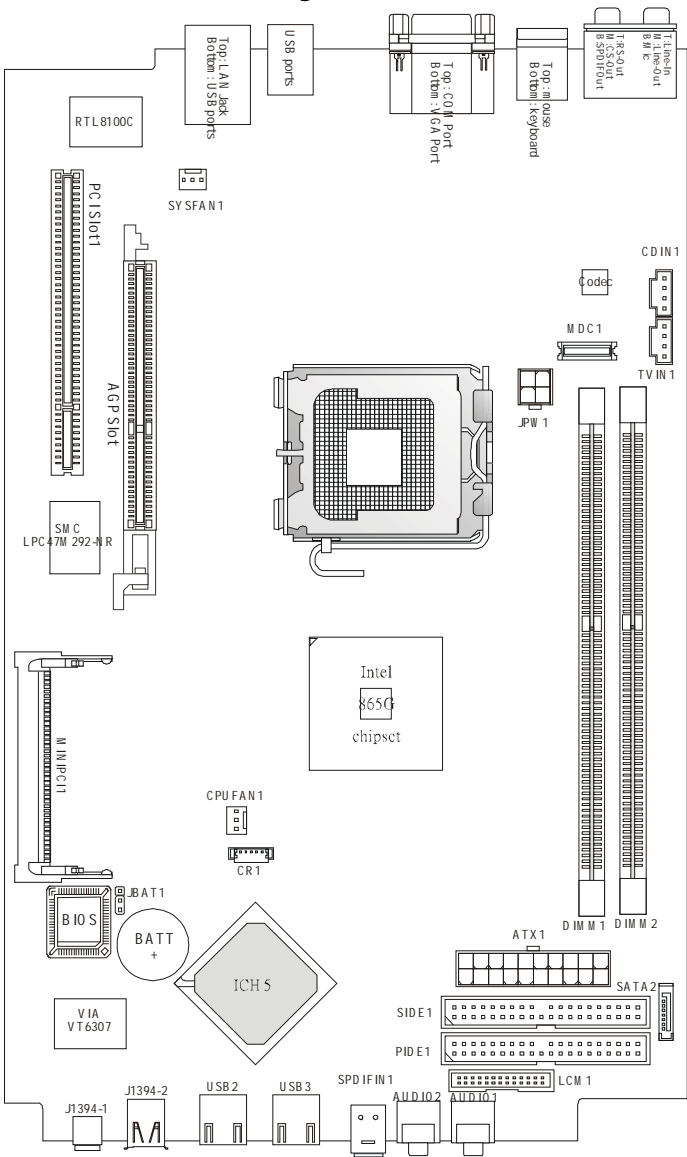
2.6 Back Panel

2.7 Connectors

2.8 Jumper

2.9 Slots

2.1 Mainboard layout



MS-7122 v1.X Mainboard

2.2 CPU

This mainboard supports Intel® P4 Prescott CPU up to 3.4GHz. The mainboard uses a CPU socket called LGA775 for easy CPU installation. When you are installing the CPU, make sure the CPU has a heat sink and a cooling fan attached on the top to prevent overheating. Remember to peel off the sticker before you install the CPU cooler. For information on how to install the CPU and cooler, refer to Quick Installation Guide.

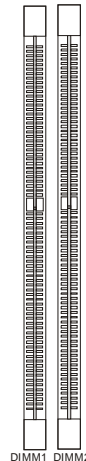


Note:

1. Read the instructions on the cooler before you start the installation.
2. Overheating will seriously damage the CPU and system, always make sure the cooling fan can work properly to protect the CPU from overheating.

2.3 Memory

The mainboard provides 2 slots for 184-pin DDR SDRAM DIMM (Double In-Line Memory Module) modules and supports the memory size up to 2GB. You can install DDR400/DDR333/DDR266 modules into the DDR DIMM slots.



Memory Speed/CPU FSB Support Matrix

Memory \ FSB	DDR266	DDR333	DDR400
FSB400	OK	N/A	N/A
FSB533	OK	OK	N/A
FSB800	OK	OK	OK

DIMM Module Combination

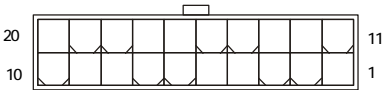
Install at least one DIMM module on the slots. You can install either single- or double-sided modules in any order to meet your own needs. Memory modules can be installed in any combination as follows:

Slot	Memory Module	Total Memory
DIMM 1 (Bank 0 & 1)	DDR S/D	64MB~1GB
DIMM 2 (Bank 2 & 3)	DDR S/D	64MB~1GB
Maximum System Memory Supported		64MB~2GB

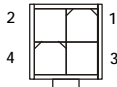
S: Single Side
D: Double Side

2.4 Power Supply

The system is equipped with a 220W(PFC) ATX power supply. The power cord of the power supply has been connected to the connector ATX1 on the mainboard when shipped out. Except the 20-pin connector ATX1, you can find another 4-pin power connector JPW1 on the mainboard. This 12V power connector is used to provide power to the CPU.



ATX1



JPW1

ATX1 Pin Definition

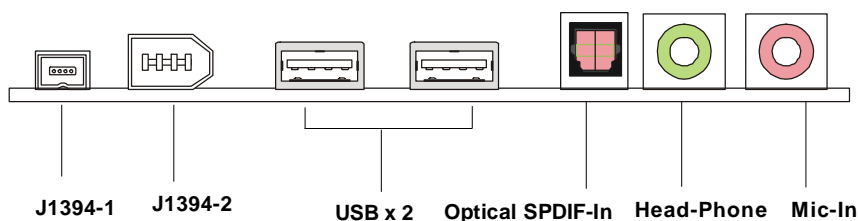
PIN	SINGAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	
9	5V_SB	19	5V
10	12V	20	5V

JPW1 Pin Definition

PIN	SINGAL
1	GND
2	GND
3	12V
4	12V

2.5 Front panel

The Front Panel is independent and extended from the mainboard. It's connected to the Front I/O Connector on the mainboard. You can find the following ports on the Front Panel.



IEEE 1394 Port: J1394-1

The mainboard provides two IEEE 1394 ports. This smaller one is designed for you to connect the IEEE 1394 device with external power. The IEEE 1394 high-speed serial bus complements USB by providing enhanced PC connectivity for a wide range of devices, including consumer electronics audio/video (A/V) appliances, storage peripherals, other PCs, and portable devices.

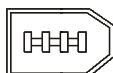


Software Support

IEEE 1394 Driver is provided by Windows® 98 SE, Windows® XP, Windows® ME and Windows® 2000. Just plug in the IEEE 1394 connector into the port. These Operating Systems will install the driver for IEEE 1394.

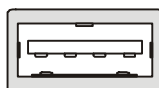
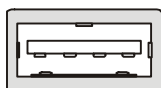
IEEE 1394 Port: J1394-2

The bigger 6-pin IEEE 1394 Port on the front panel is designed for you to connect to IEEE 1394 devices without external power. That means the mainboard can provide the power for the devices connected to this port.



USB Ports

The mainboard provides a UHCI (Universal Host Controller Interface) Universal Serial Bus root for attaching USB devices such as keyboard, mouse or other USB-compatible devices. You can plug the USB device directly into the connector.

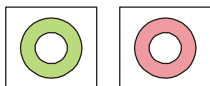


USB Port Description

PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data 0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	-Data 1	Negative Data Channel 1
7	+Data 1	Positive Data Channel 1
8	GND	Ground

Mic-in/Head-Phone

Mic-in is a connector for microphone. Head-Phone is a connector for Speakers or Headphones.



OPTICAL SPDIF-in

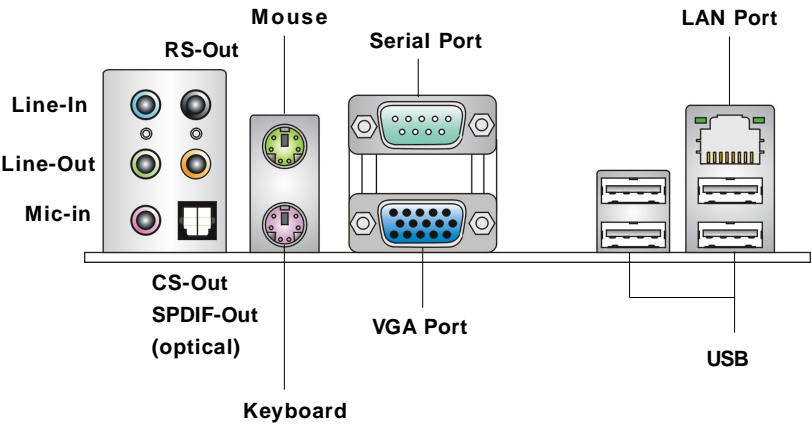
The OPTICAL connector allows you to receive the audio file of SPDIF interface for recording and playing.

The SPDIF (Sony & Philips Digital Interface) is developed jointly by the Sony and Philips corporations . A standard audio file transfer format, SPDIF allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format.



2.6 Back panel

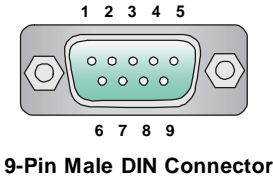
The Back Panel provides the following ports:



Serial Port

The mainboard offers a 9-pin male DIN serial port . The port is 16550A high speed communication ports that sends/receives 16 bytes FIFOs. You can attach a serial mouse or other serial devices directly to the connector.

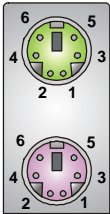
Pin Definition		
PIN	SIGNAL	DESCRIPTION
1	DCD	Data Carry Detect
2	SIN	Serial In or Receive Data
3	SOUT	Serial Out or Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicate



Mouse/Keyboard Connectors

The mainboard provides two standard mini DIN connectors for attaching PS/2® mouse and keyboard. You can plug a PS/2® mouse or keyboard directly into the connector.

PS/2 Mouse (6-pin Female)



PS/2 Keyboard (6-pin Female)



Pin Definition

PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection

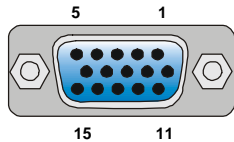
Pin Definition

PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

VGA Port

The mainboard provides one DB 15-pin female connector to connect a monitor.

Pin Definition

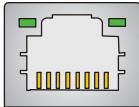


DB 15-Pin Female Connector

Analog Video Display Connector (DB-15s)	
PIN	SIGNAL DESCRIPTION
1	Red
2	Green
3	Blue
4	Not used
5	Ground
6	Ground
7	Ground
8	Ground
9	Power
10	Ground
11	Not used
12	SDA
13	Horizontal Sync
14	Vertical Sync
15	SCL

RJ45 LAN Jack

The mainboard provides one standard RJ-45 jack for connection to Local Area Network (LAN). You can connect a network cable to the LAN jack.



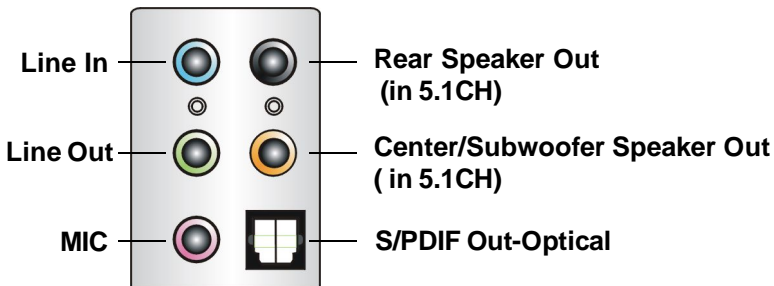
Pin Definition

PIN	SIGNAL	DESCRIPTION
1	TDP	Transmit Differential Pair
2	TDN	Transmit Differential Pair
3	RDP	Receive Differential Pair
4	NC	Not Used
5	NC	Not Used
6	RDN	Receive Differential Pair
7	NC	Not Used
8	NC	Not Used

Audio Port Connectors

The left 3 audio jacks are for 2-channel mode for stereo speaker output: Line Out is a connector for Speakers or Headphones. Line In is used for external CD player, Tape player, or other audio devices. Mic is a connector for stereo microphone.

However, there is an advanced audio application provided by CMI9761A to offer support for 5.1-channel audio operation and can turn rear audio connectors from 2-channel to 4-/5.1-channel audio.



2.7 Connectors

IDE Connectors: PIDE1 & SIDE1

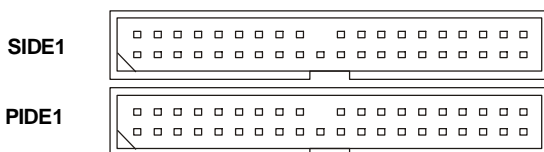
The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA 33/66/100 controller that provides PIO mode 0~4, Bus Master, and Ultra DMA/33/66/100 function. The two connectors on the mainboard allows you to connect to two IDE devices.

PIDE1 (Primary IDE Connector)

- PIDE1 can only connect a HDD.

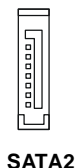
SIDE1 (Secondary IDE Connector)

- SIDE1 can only connect a CD-ROM drive.



Serial ATA Connector: SATA2

The mainboard provides the connector to connect the hard disk of Serial ATA interface.

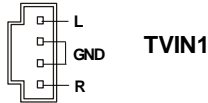


Pin Definition

Pin	Signal	Pin	Signal
1	GND	2	TXP
3	TXN	4	GND
5	RXN	6	RXP
7	GND		

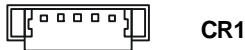
TV-Tuner Card Audio Connector: TVIN1

The mainboard provides the connector to connect Audio of the TV-Tuner card. You can insert the optional TV-Tuner card into the PCI Slot 1.



Card Reader Connector: CR1

The mainboard provides a connector to connect the Card Reader on the Front Panel.

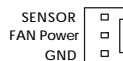


CPU Fan Connectors: CPUFAN1/SYSFAN1

The CPU Fan/System Fan connectors support system cooling fans with +12V that is controlled by PWM. When connecting the wire to the three-pin head connectors, always note that the red wire is the positive and should be connected to the +12V (that is controlled by PWM), the black wire is Ground and should be connected to GND.



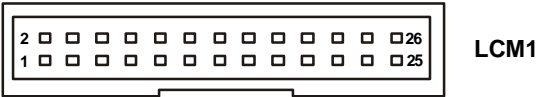
SYSFAN1



CPUFAN1

Color LED Connector: LCM1

The connector is used to connect the color LED on the front panel.

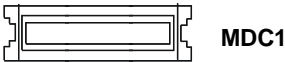


Pin Definition

Pin	Signal	Pin	Signal
1	SRS	4	OS-SEL
5	MP_RTS	6	MP_RXD
7	MP_DTR	8	MP_TXD
9	IR or RST#	10	FLAT
11	CD_SMI#	12	ROCK
13	VCC5	14	POPS
15	MP_CTR_PWRON	16	CLASSIC
17	IDE_LED	18	EQ_CYC
19	PLED1	20	VCC5-SB
21	PLED2	23	BASS
25	BASS_DETECT		

Modem Module Connector: MDC1 (Optional)

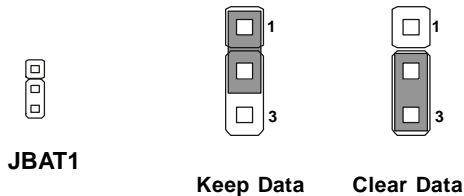
The mainboard provides the connector to connect the modem module. The modem module is directly inserted into the connector without any extra cable.



2.8 Jumper

There is a CMOS RAM on board that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. That battery has long life time for at least 2 years. If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the instructions below to clear the data:

Clear CMOS Jumper: JBAT1



You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

2.9 Slots

PCI Slot

The PCI slot allows you to insert PCI card or TV Tuner card. When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to make any necessary hardware or software settings.

AGP (Accelerated Graphics Port) Slot

The AGP slot allows you to insert the AGP graphics card. AGP is an interface specification designed for the throughput demands of 3D graphics. It introduces a 66MHz, 32-bit channel for the graphics controller to directly access main memory and provides 1x (266Mbps), 2x (533Mbps) , 4x (1.07Gbps) and 8x throughputs.

Mini PCI Slot

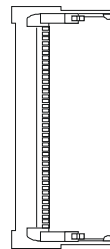
The motherboard provides a mini PCI slot for connecting a mini PCI interface card.



PCI



AGP



Mini PCI

3

BIOS Setup

- 3.1 Entering Setup
- 3.2 The Main Menu
- 3.3 Standard CMOS Features
- 3.4 Advanced BIOS Features
- 3.5 Advanced Chipset Features
- 3.6 Integrated Peripherals
- 3.7 Power Management Setup
- 3.8 PnP/PCI Configurations
- 3.9 PC Health Status
- 3.10 Load Optimal/Fail Safe Defaults

3.1 Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press key to enter Setup.

Press DEL to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<- /PD>	Decrease the numeric value or make changes
<+ /PU>	Increase the numeric value or make changes
<F7>	Load Fail-Safe Defaults
<F6>	Load Optimal Defaults
<F10>	Save all the CMOS changes and exit

Getting Help

After entering the Setup menu, the first menu you will see is the Main Menu.

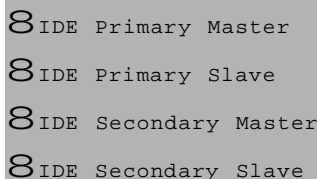
Main Menu

The main menu lists the setup functions you can make changes to. You can use the control keys ($\uparrow\downarrow$) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Sub-Menu

If you find a right pointer symbol (as shown in the right view) appears to the left of certain fields that means a sub-menu containing additional options can be launched from this field. You can use control keys ($\uparrow\downarrow$) to highlight the field and press <Enter> to call up the sub-menu.

Then you can use the control keys to enter values and move from field to field within a sub-menu. If you want to return to the main menu, just press <Esc>.



```
8 IDE Primary Master
8 IDE Primary Slave
8 IDE Secondary Master
8 IDE Secondary Slave
```

General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

3.2 The Main Menu

Once you enter BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from eleven setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



Standard CMOS Features

Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features

Use this menu to setup the items of special enhanced features.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Power Management Features

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

PC Health Status

This entry shows your PC health status.

Set Supervisor Password

Use this menu to set Supervisor Password.

Set User Password

Use this menu to set User Password.

Load Optimal Defaults

Use this menu to load the BIOS values for the best system performance, but the system stability may be affected.

Load Fail Safe Defaults

Use this menu to load factory default settings into the BIOS for stable system performance operations.

Save & Exit Setup

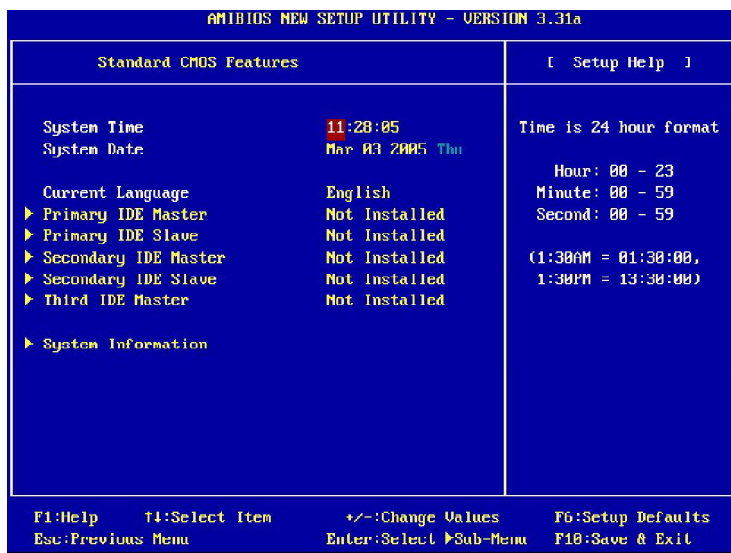
Save changes to CMOS and exit setup.

Exit Without Saving

Abandon all changes and exit setup.

3.3 Standard CMOS Features

The items in Standard CMOS Features Menu are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.



System Time

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

System Date

This allows you to set the system to the date that you want (usually the current date). The format is <day><month> <date> <year>.

Current Language

This allows you to select the language of BIOS. Setting option: [English].

Primary/Secondary IDE Master/Slave, Third IDE Master

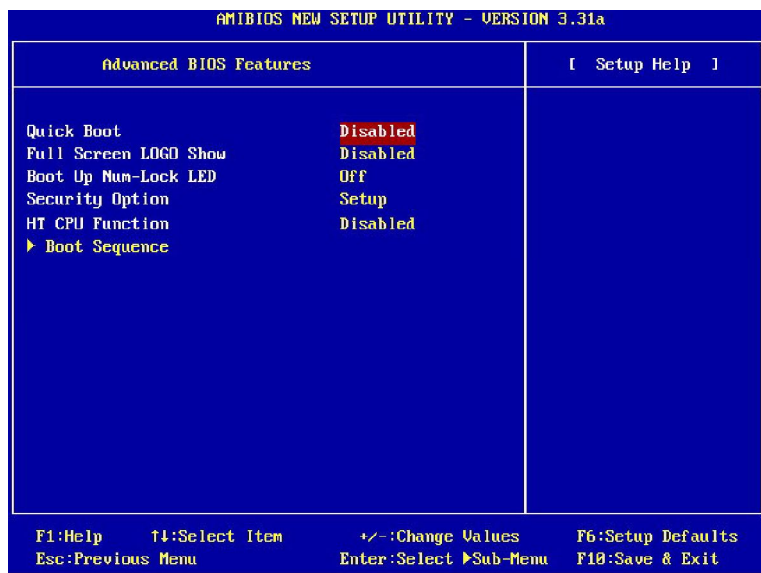
Press PgUp/<+> or PgDn/<-> to select [Manual], [None] or [Auto] type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use [Manual] to define your own drive type manually. If you select [Manual], related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

Type	Select how to define the HDD parameters
<u>Cylinders</u>	Enter cylinder number
<u>Heads</u>	Enter head number
<u>Write Precompensation</u>	Enter write precomp cylinder
<u>Sectors</u>	Enter sector number
<u>Maximum Capacity</u>	Read the maximal HDD capacity
<u>LBA Mode</u>	Select Auto for a hard disk > 512 MB under Windows and DOS, or Disabled under Netware and UNIX
<u>Block Mode</u>	Select Auto to enhance the hard disk performance
<u>Fast Programmed I/O Modes</u>	Select Auto to enhance hard disk performance by optimizing the hard disk timing
<u>32 Bit Transfer Mode</u>	Enable 32 bit to maximize the IDE hard disk data transfer rate

System Information

It shows information of your system, such as the CPU type, BIOS version and model name. (read only)

3.4 Advanced BIOS Features



Quick Boot

Setting the item to [Enabled] allows the system to boot fast since it will skip some check items. Available options: [Enabled], [Disabled].

Full Screen Logo Show

This item enables you to show the company logo on the bootup screen.

Settings are:

[Enabled] Shows a still image (logo) on the full screen at boot.

[Disabled] Shows the POST messages at boot.

BootUp Num-Lock LED

This setting is to set the Num Lock status when the system is powered on. Setting to [On] will turn on the Num Lock key when the system is powered on. Setting to [Off] will allow users to use the arrow keys on the numeric keypad.

Security Option

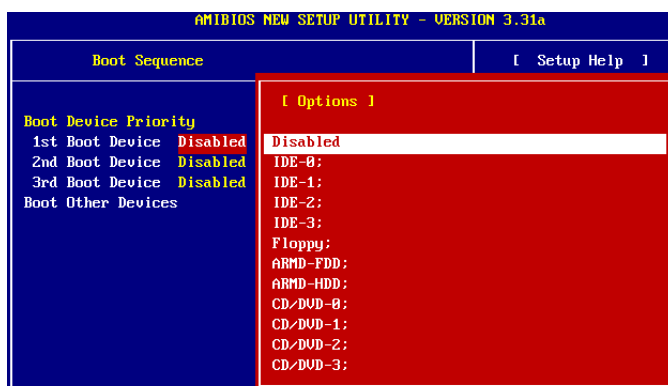
This specifies the type of BIOS password protection that is implemented. Settings are described below:

Option	Description
[Setup]	The password prompt appears only when end users try to run Setup.
[System]	A password prompt appears every time when the computer is powered on or when end users try to run Setup.

HT CPU Function

The processor uses Hyper-Threading technology to increase transaction rates and reduces end-user response times. The technology treats the two cores inside the processor as two logical processors that can execute instructions simultaneously. In this way, the system performance is highly improved. If you disable the function, the processor will use only one core to execute the instructions. Settings: [Enabled], [Disabled].

Boot Sequence



1st/2nd/3rd Boot Device

The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system. If you select

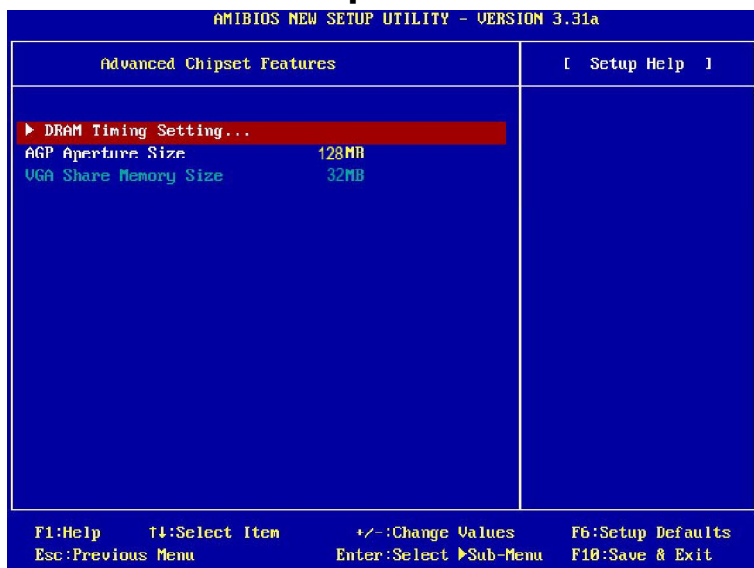
Chapter 3

boot from USB device, USB Device Legacy Support must be set to [Enabled].

Boot Other Devices

Setting the option to [Yes] allows the system to try to boot from other device if the system fails to boot from the 1st/2nd/3rd boot device.

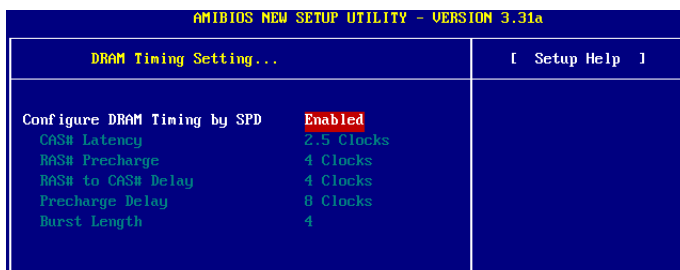
3.5 Advanced Chipset Features



Change these settings only if you are familiar with the chipset.

DRAM Timing Control

Press <Enter> to enter the sub-menu and the following screen appears:



Configure DRAM Timing by SPD

Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to [Enabled] enables RAS# Precharge, RAS# to CAS# Delay, Precharge Delay, CAS# Latency and Burst Length automatically to be determined by BIOS based on the configurations on the SPD. Selecting [Disabled] allows users to configure these fields manually.

CAS# Latency

This controls the timing delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings: [2], [2.5], [3] (clocks). [2] (clocks) increases the system performance the most while [3] (clocks) provides the most stable performance.

RAS# Precharge

This item controls the number of cycles for Row Address Strobe (RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system. Available settings: [4], [3], [2] (clocks).

RAS# to CAS# Delay

When DRAM is refreshed, both rows and columns are addressed separately. This setup item allows you to determine the timing of the transition from RAS (row address strobe) to CAS (column address strobe). The less the clock cycles, the faster the DRAM performance. Available settings: [4], [3], [2] (clocks).

Precharge Delay

The field specifies the idle cycles before precharging an idle bank.
Settings: [8], [7], [6], [5] (clocks).

Burst Length

This setting allows you to set the size of Burst-Length for DRAM. Bursting feature is a technique that DRAM itself predicts the address of the next memory location to be accessed after the first address is accessed. To use the feature, you need to define the burst length, which is the actual length of burst plus the starting address and allows internal address counter to properly generate the next memory location. The bigger the size, the faster the DRAM performance. Settings: [4], [8].

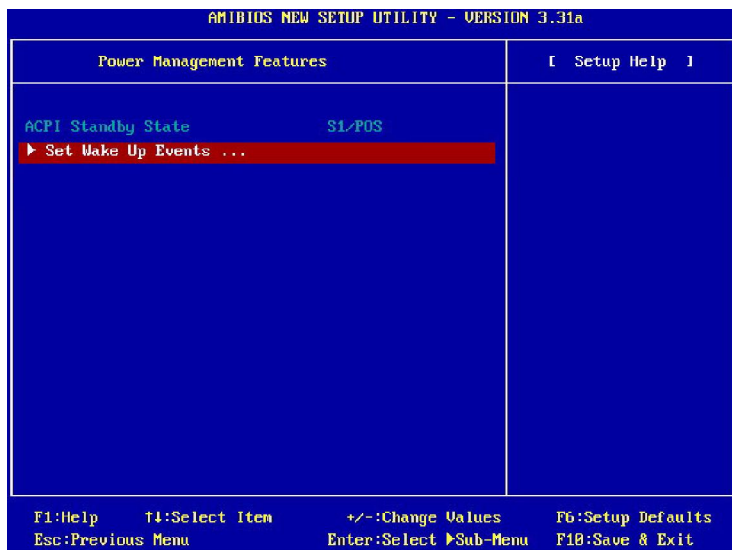
AGP Aperture Size (MB)

This setting controls just how much system RAM can be allocated to AGP for video purposes. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The option allows the selection of an aperture size of [4MB], [8MB], [16MB], [32MB], [64MB], [128MB], and [256MB].

VGA Share Memory Size

The system shares memory to the onboard VGA card. This setting controls the exact memory size shared to the VGA card. Setting options: [1M], [4M], [8M], [16M], [32M].

3.6 Power Management Features



ACPI Standby State

This item specifies the power saving mode for ACPI function. If your operating system supports ACPI, such as Windows 98SE, Windows ME and Windows 2000, you can choose to enter the Standby mode in S1 (POS) or S3(STR) fashion through the setting of this field. Options are:

- [S1/POS] The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context.
- [S3/STR] The S3 sleep mode is a power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory. The information stored in memory will be used to restore the PC to the previous state when a “wake up” event occurs.

[Auto] BIOS determines the mode automatically.

Set Wake Up Events

Press <Enter> to enter the sub-menu and the following screen appears:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a	
Set Wake Up Events ...	[Setup Help]
Resume By RTC Alarm	Disabled
Alarm Date	Every Day
Alarm Hour	00
Alarm Minute	00
Alarm Second	00

Resume By RTC Alarm

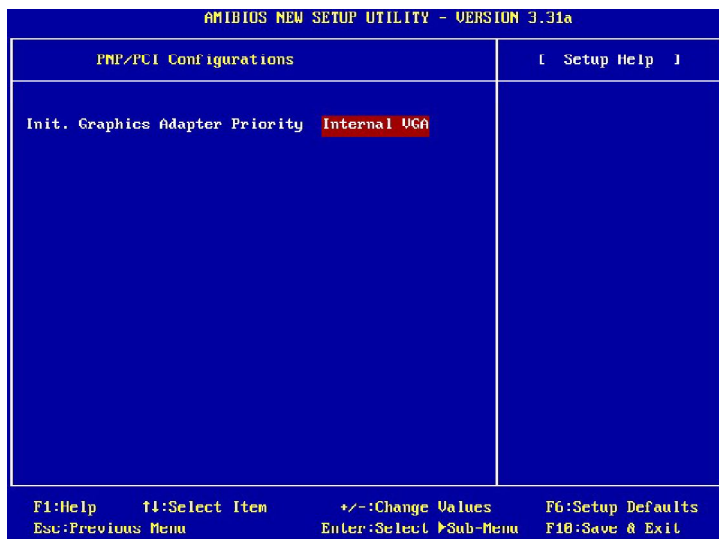
This is used to enable or disable the feature of booting up the system on a scheduled time/date from the soft off (S5) state. Settings: [Enabled], [Disabled].

Alarm Date/Hour/Minute/Second

If Resume By Alarm is set to Enabled, the system will automatically resume (boot up) on a specific date/hour/minute/second specified in these fields. Available settings for each item are:

Alarm Date	01 ~ 31, Every Day
Alarm Hour	00 ~ 23
Alarm Minute	00 ~ 59
Alarm Second	00 ~ 59

3.7 PNP/PCI Configurations

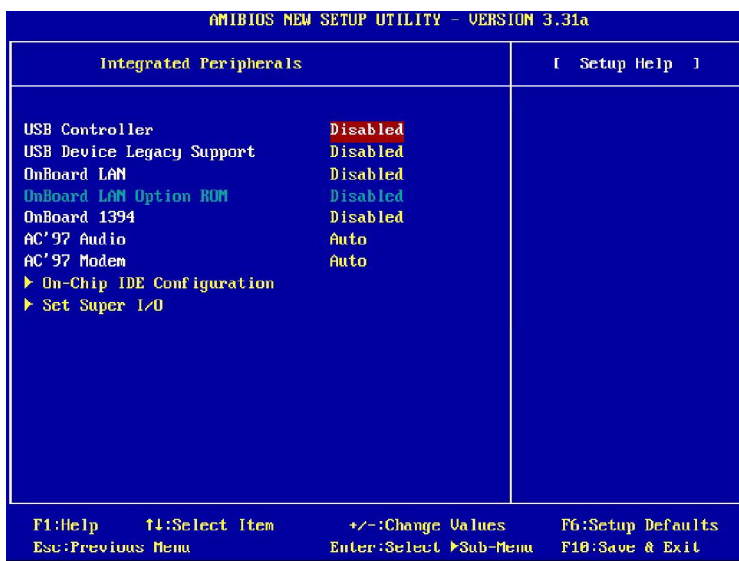


Init. Graphics Adapter Priority

This setting specifies which VGA card is your primary graphics adapter. Setting options are:

- | | |
|----------------|---|
| [Internal VGA] | The system initializes the onboard VGA device. |
| [AGP/Int-VGA] | The system initializes the installed AGP VGA card first. If a AGP VGA card is not available, it will initialize the onboard VGA device. |
| [AGP/PCI] | The system initializes the installed AGP card first. If the AGP card is not available, it will initialize the PCI VGA card. |
| [PCI/AGP] | The system initialize the installed PCI VGA card first. If the PCI VGA card is not available, it will initialize the AGP card. |
| [PCI/Int-VGA] | The system initializes the installed PCI VGA card first. If a PCI VGA card is not available, it will initialize the onboard VGA device. |

3.8 Integrated Peripherals



USB Controller

This setting is used to enable/disable the onboard USB controller. Setting options: [Disabled], [Enabled].

USB Device Legacy Support

Set to [All Device] if your need to use any USB device in the operating system that does not support or have any USB driver installed, such as DOS and SCO Unix. Set to [No Mice] only if you want to use any USB device other than the USB mouse. Setting options: [Disabled], [All Device], [No Mice].

OnBoard LAN

This setting controls the onboard LAN device. Setting options: [Disabled], [Enabled].

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Load OnBoard LAN BIOS

This setting allows you to load the default LAN BIOS. Setting options: [Disabled], [Enabled].

OnBoard 1394

This setting controls the onboard 1394 device. Setting options: [Disabled], [Enabled].

AC'97 Audio

[Auto] allows the mainboard to detect whether an audio device is used. If an audio device is detected, the onboard AC'97 audio controller will be enabled; if not, it is disabled. Disable the controller if you want to use other controller cards to connect an audio device. Settings: [Auto], [Disabled].

AC'97 Modem

[Auto] allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard AC'97 modem controller will be enabled; if not, it is disabled. Disable the controller if you want to use other controller cards to connect a modem. Settings: [Auto], [Disabled].

On-Chip IDE Configuration

Press <Enter> to enter the sub-menu and the following screen appears:



P-ATA Channel Selection

This item is available for you to select the parallel ATA channel. Setting options: [Primary], [Secondary], [Both].

On-Chip Serial ATA

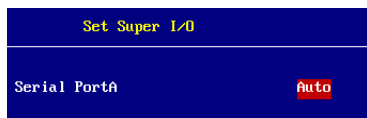
This setting is used to specify the SATA controller. If [Legacy Mode] is selected, PATA and SATA will be combined. If [Native Mode] is selected, PATA and SATA will both be enabled. Settings: [Disabled], [Legacy Mode], [Native Mode].

Combined Mode Option

This item is available for you to select the combined mode of the ATA controllers. Setting options: [P-ATA 1st Channel], [S-ATA 1st Channel].

Set Super I/O

Press <Enter> to enter the sub-menu and the following screen appears:



Serial Port A

This specifies the I/O port address of Serial Port A. Selecting [Auto] allows AMIBIOS to automatically determine the correct base I/O port address. Settings: [Disabled], [3F8/COM1], [3E8/COM3], [Auto].

3.9 PC Health Status

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a		
PC Health Status		[Setup Help]
Adjust CPU Ratio	8.0x	
System Temperature	0°C/32°F	
CPU Temperature	0°C/32°F	
System Fan Speed		
CPU Fan Speed		
Vccp (Processor)	0.000V	
HVCC(+3.3VSB)	0.000V	
+ 2.5V	0.000V	
+ 3.3V	0.000V	
+ 1.5V	0.000V	
+ 5.0V	0.000V	
+12.0V	0.000V	
F1:Help F4:Select Item +/-:Change Values F6:Setup Defaults Esc:Previous Menu Enter:Select Tab:Sub-Menu F10:Save & Exit		

Adjust CPU Ratio

This item allows you to adjust the CPU ratio. Setting to [Startup] enables the CPU running at the fastest speed which is detected by system. Setting options are: [8.0x]~[22.0x].

System/CPU Temperature, System/CPU Fan Speed, Vccp (Processor), HVCC (+3.3VSB), +2.5V, +3.3V, +1.5V, +5.0V, +12.0V

These items display the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and all fans' speeds.

3.10 Load Optimal/Fail Safe Defaults

The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for optimal performance of the mainboard. The Fail-Safe Defaults are the default values set by the BIOS vendor for stable system performance.

When you select Load Optimized Defaults, a message as below appears:



Pressing [Enter] loads the default factory settings for optimal system performance.

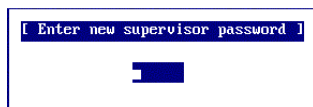
When you select Load Fail-Safe Defaults, a message as below appears:



Pressing [Enter] loads the BIOS default values for the most stable, minimal system performance.

3.11 Set Supervisor/User Password

When you select this function, the following dialog box will appear on the screen:



Type the password, up to six characters in length, and press <Enter>. The password typed now will replace any previously set password from CMOS memory. You will be prompted to confirm the password. Re-type the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have Award BIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the Security Option of the ADVANCED BIOS FEATURES menu. If the Security Option is set to System, the password is required both at boot and at entry to Setup. If set to Setup, password prompt only occurs when you try to enter Setup.



About Supervisor Password & User Password:

Supervisor password: Can enter and change the settings of the setup menu.

User password: Can only enter but do not have the right to change the settings of the setup menu.

4

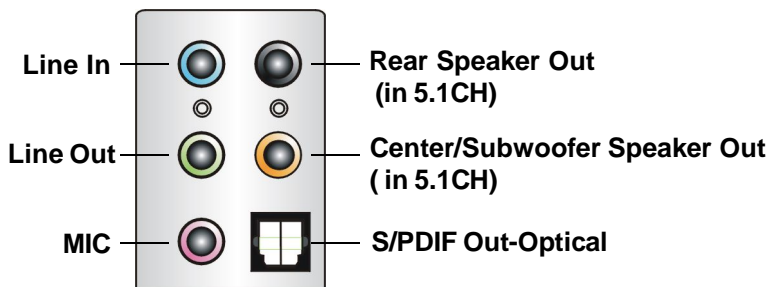
Appendix

4.1 Speaker Configuration

4.2 MSI Worldwide Offices

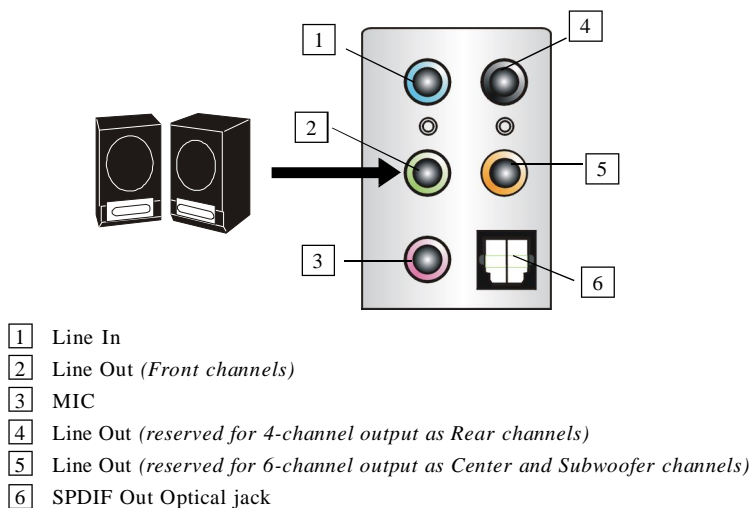
4.1 Speaker Configuration

Back Panel Audio Ports

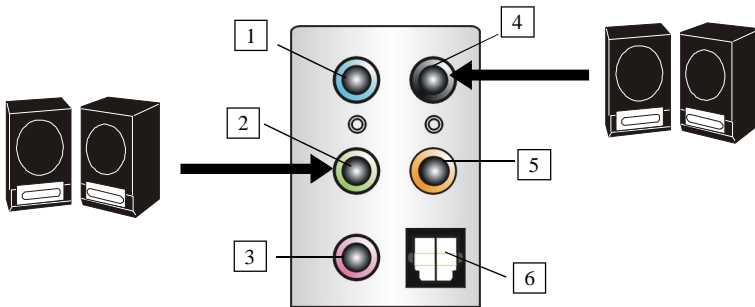


Refer to the following diagrams for the function of each phone jack on the back panel when 2-, 4-, 6-channel outputs are selected.

2-Channel Output

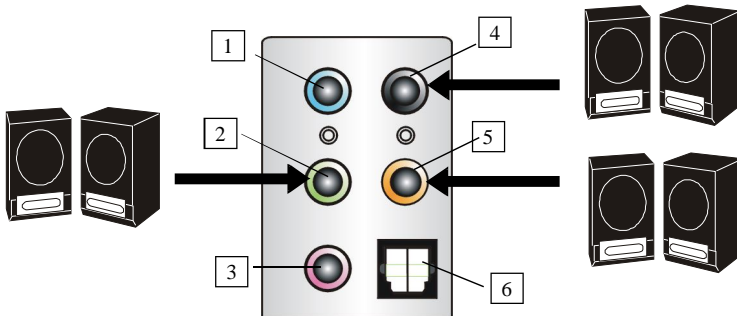


4-Channel Output



- 1 Line In
- 2 Line Out (*Front channels*)
- 3 MIC
- 4 Line Out (*Rear channels*)
- 5 Line Out (*reserved for 6-channel output as Center and Subwoofer channels*)
- 6 SPDIF Out Optical jack

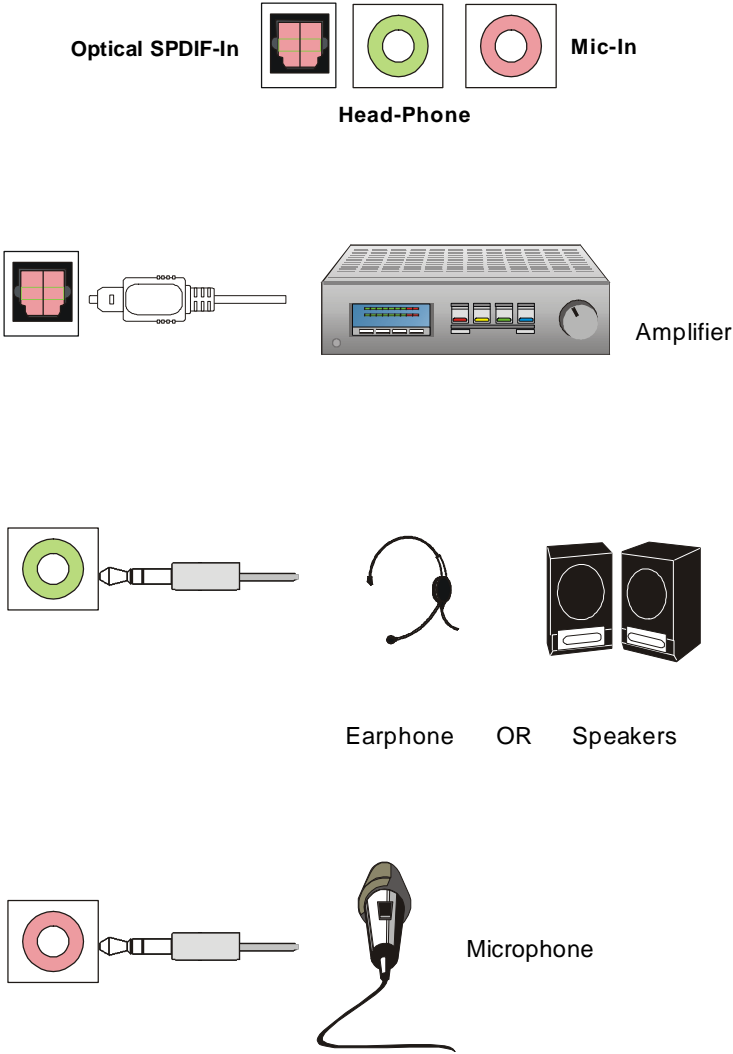
6-Channel Output



- 1 Line In
- 2 Line Out (*Front channels*)
- 3 MIC
- 4 Line Out (*Rear channels*)
- 5 Line Out (*Center and Subwoofer channels*)
- 6 SPDIF Out Optical jack

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Front Panel Audio Ports



4.2 MSI Worldwide Offices

If a problem arises with your system and no solution can be obtained from the user's guide, please contact your place of purchase or local distributor.

MSI Headquarters

Micro-Star International Co., Ltd.

No. 69, Li-De St., Jung-He City,

Taipei Hsien, Taiwan

Tel: 886-2-3234-5599 (REP)

Fax: 886-2-3234-5488 (REP)

<http://www.msi.com.tw>

Australia

MSI Computer (Australia) Pty. Ltd.

Tel: 61-2-9748-0070

Fax: 61-2-9748-0799

<http://www.msicomputer.com.au>

China

Micro-Star International Co., Ltd.

Tel: 86-21-524-02018

Fax: 86-21-524-02017

<http://www.microstar.com.cn>

China Factory

MSI Computer (Shenzhen) Co., Ltd.

Tel: 86-755-810-1899

Fax: 86-755-762-9019

France

MSI Computer SARL

Tel: 33-1-6476-4949

Fax: 33-1-6476-4948

<http://www.msi-computer.fr>

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Germany

MSI Technology GmbH

Tel: 49-69-40893-0

Fax: 49-69-40893-302

<http://www.msi-computer.de>

Hong Kong

Micro-Star International (Hong Kong) Co., Ltd.

Tel: 852-2959-0852

Fax: 852-2991-4850

<http://www.microstar.com.hk>

Japan

MSI Computer Japan Co., Ltd.

Tel: 81-3-3866-7761

Fax: 81-3-3866-7768

<http://www.msi-computer.co.jp>

Korea

MSI Korea Co., Ltd.

Tel: 002-82-32-584-3641~6

Fax: 002-82-32-584-3647

<http://www.msi-korea.co.kr>

Latin America

MSI Miami Corp.

Tel: 1-305-591-2229

Fax: 1-305-591-9929

<http://www.msimiami.com>

UK

MSI Computer (UK) Ltd.

Tel: 44-208-813-6688

Fax: 44-208-813-6608

<http://www.msicomputer.co.uk>

U.S.A.

MSI Computer Corp. (L.A. Office)

Tel: 1-626-913-0828

Fax: 1-626-913-0818

<http://www.msicomputer.com>

The Netherlands
Mystar Computer B.V.
Tel: 31-40-267-6600
Fax: 31-40-267-6699
<http://www.msi-computer.nl>

Alternatively, please try the following help resources for further guidance.

- 🔍 Visit the MSI website for FAQ, technical guide, BIOS updates, driver updates, and other information at <http://www.msi.com.tw/>
- 🔍 Contact our technical staff at: support@msi.com.tw